

REMARKS

This is in response to the Office Action dated May 29, 2002 for which a response is due August 29, 2002.

REJECTION UNDER 35 U.S.C. § 112

The Office Action states that claims 8 and 12 are rejected under 35 U.S.C. § 112, second paragraph for indefiniteness on the basis that in claim 8, the phrase "gold to aluminum ratio of at least 3.66" is indefinite. In reviewing the claims, it appears that this rejection was meant to pertain to claim 7. Examiner suggested that such claim be amended to state "wherein the gold to aluminum ratio is at least 3.66, with the ratio based upon the weight percentages of the elements in the alloy". Based on Examiner's suggestion, claim 7 has been so amended.

Claim 12 was rejected on the basis that the claim references merely accompanying examples and not specific structures. Claim 12 has been cancelled.

REJECTION UNDER 35 U.S.C. § 102

Claims 1, 4, 6, 7, 10, 11, and 13 were rejected under 35 USC 102b as being anticipated by Japanese patent no. 59093847, henceforth referred to as JP847, on the basis that it discloses a gold-aluminum alloy containing 15-30 wt% aluminum. The abstract states "the Au,Al alloy contains 15-30 wt% Al". The Office Action states that this must necessarily contain 70-85 wt% gold, although the abstract does not make such a statement. It is mere conjecture to assume that such composition comprises 15-

30 wt% aluminum and the balance gold. There is no basis to assume any weight range of gold in JP847. Accordingly, the position in the Office Action is unsupported.

Nevertheless, the composition in the present application namely, 76-83.5 wt% gold and 16.5-21.5 wt% aluminum, is not anticipated because it is well known that a genus does not always anticipate a claim to a species within the genus. Further with regard to ranges, if no specific examples in the prior art fall within the claimed range, a case-by-case determination must be made as to anticipation. See MPEP 2131.01 et. seq. See also *Corning Glassworks v. Sumitomo Electric USA, Inc.*, 868F.2d 1251, 1262, 9 U.S.P.Q.2d, 1962, 1970 (Fed. Cir. 1989), which stands for the proposition that a genus does not always anticipate a species within the genus, particularly in the case where the prior art genus did not identically disclose or describe, within the meaning of section 102, the claim species, since the genus would include an untold number of species. Thus, the effect of the disclosure of a genus on the patentability of a species depends on the size of the genus and the disclosure of the preferred sub-genera and/or species, if any. More particularly, a genus will anticipate a species within the genus, which is not expressly disclosed, only if one of ordinary skill would immediately envision the claimed species from the disclosed genus.

The present application states that gold must be present in the amount of at least 76 wt%. In the present case, the chosen narrow sub-range of 76-83.5 wt% is based upon the fact that below 76 wt%, gold introduces undesirable eutectic phase that degrades color and lacks sufficient hardness. See the specification on page 6, "Control

2", wherein it is said that the specimen with 75 wt% Au resulted in large amounts of Au-rich eutectic precipitation which seriously degrades the surface color causing it to be reddish rather than purple. In addition, specimens of 80.5% Au, 81% Au, 79.7% Au, 79.7% Au, 79.4% Au, 77% Au demonstrated no signs of precipitate and the grain structure color was the desired pinkish purple.

In another aspect, the invention is described in the specification at page 4, where the gold content may be above 78.5 wt% but only up to a maximum of 83.5 wt% to have the requisite toughness and by producing a gamma-phase gold aluminum structure.

In summary, JP847, as applied, does not disclose a range of gold, does not disclose problem of eutectic precipitation at 75% Au and less, and does not disclose any information at all about the necessary control of weight range of Au. Thus, one of ordinary skill in the art is not able to envisage the specific ranges and, therefore, such is not anticipated and is not rendered obvious.

A further teaching in the specification concerns the gold content and the presence of additional alloys, which unexpectedly render the ability to have a gold content of less than 78.5 wt%, provided that palladium or nickel or combinations thereof are present.

Claim 4 was rejected on essentially the same basis as claim 1, is submitted to be patentable for the same reasons as described with respect to claim 1, and for the further

reason that the claim pertains to a range of 78.5 to 83.5, narrower, and providing a range with improved properties. The specification at page 3, line 20 et. seq., says that the jewellery alloy of the invention does not include pure intermetallic compound, Au,Al (78.5 wt% Au and 21.5 wt% Al), because it does not have toughness. This claim 4 is novel over JP847 and not obvious in view of JP847.

Claims 6 and 7 were rejected on the same basis as claim 1 and the arguments presented hereinabove with respect to claims 1 and 4 are equally applicable, therefore, rendering claims 6 and 7 novel and not obvious in view of JP847.

Claims 10 and 11 are dependent claims directed to an article comprising a metal component in accordance with earlier claims. Claims 10 and 11 are submitted to be patentable for the reasons described hereinabove with respect to claims 1 and 4.

Claim 13 was rejected as being anticipated by JP847. Claim 13 has now been amended to state that at least one of palladium and nickel must be present. Therefore, claim 13 is not anticipated by JP847, as applied, and which nowhere mentions such added elements.

Claim 5 was rejected on the basis of anticipation by JP62240729 (JP729) on the basis that JP729 disclosed an aluminum gold alloy comprising nickel and palladium.

It is to be noted that JP729 discloses an alloy that comprises gold and aluminum and another metallic element selected from nickel, cobalt, and palladium present in an amount of at least 7%, and a stated range of 7-30 wt%.

Claim 5 has been amended to state that additional element is selected from the group consisting of palladium, nickel, and mixtures thereof, provided that when said palladium is present, it is present in an amount by wt of up to 4% and provided that when said nickel is present, it is present in an amount by wt of up to 2%. In contrast, JP729 teaches that the additional element is present in an amount by wt of 7% to 30%. This is greater than the collective amount of nickel and palladium in the present invention which is no more than 6%. Further, when palladium alone is present, it is present in an amount by weight of no more than 4%, and when nickel is present, it is present in an amount by weight of no more than 2%. All the aforesaid ranges are far removed from 7-30 wt%. Therefore, claim 5 is submitted to be not anticipated and not rendered obvious by JP729.

Claims 2 and 3 were rejected under 35 USC 102b as being anticipated by JP729 and JP847.

Claims 2 and 3 are submitted to be patentable for the reasons described hereinabove with respect to claim 1 and for the further reason that, only by the ranges and compositions of the present invention, is it possible to achieve both the physical properties required of hardness and color, and only when the amount by weight of gold

is carefully selected to be greater than 76%. In addition, when the composition is represented generally by Au,Al, nickel or palladium must be present to provide needed properties.

The Office Action asserts that the hardness value of JP847 would inherently be the same as that of the claimed invention, but provides no basis to support same. It is impermissible to combine one reference defining alloy property with another reference having a different alloy composition. JP729 states the hardness feature of an alloy, which alloy is different than the alloy composition of JP847. Therefore, it is respectfully submitted that the rejection of claims 2 and 3 is unsupported and should be withdrawn.

REJECTION UNDER 35 U.S.C. § 103

Claims 8, 9, 14, and 15 were rejected under 35 USC 103 as being unpatentable over JP729.

Claim 8 is dependent on claim 5 and includes the collective limitations, 76% to 83.5% gold, 16.5% to 21.5% aluminum and further comprising palladium present in an amount between 0.5 and 4 wt%.

As described hereinabove, the wt% of the various elements is important in determining not only the hardness property but also the color. The amount of additional element in the range of 7-30% as taught in JP729, is so far removed from at most 4

wt% of palladium, that it would not be obvious to one skilled in the art to extrapolate to the required amount to achieve hardness and color.

Claim 9 depends on claim 5 and recites a very low content of nickel in the amount of 1-2 wt%. This is even further removed from the 7-30% of JP729.

Claims 14 and 15 were rejected for obviousness on the basis of JP729 applied to the alloy composition of claim 14 having palladium present up to 4 wt%, and the alloy of claim 15 having nickel in the amount of up to 2 wt%.

Claims 14 and 15 are submitted to be patentable and not obvious over JP729 for the same reasons as described hereinabove with respect to claims 8 and 9.


CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested.

If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

Dated: August 28, 2002

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ATTACHMENT FOR CLAIM AMENDMENTS

The following is a marked up version of each amended claim in which underlines indicates insertions and brackets indicate deletions.

5. (Amended) A jewellery allow according to claim 1, further comprising [an] at least one additional element selected from the group consisting of palladium and nickel; provided that when said palladium is present, it is present in an amount by wt of up to 4%; and provided that when said nickel is present, it is present in an amount by wt of up to 2%.

7. (Amended) A jewellery alloy according to claim 6, wherein the gold to aluminum ratio is at least 3.66, with the ratio based upon the weight percentages of the elements in the alloy.

13. (Amended) An alloy comprising 16.5 – 21.5 wt% aluminum, 0-4.0 wt% palladium, 0-2 wt% nickel and the balance gold, provided that at least one of said palladium and nickel is present.